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OCTOBER 26, 2010

Underage drinking



IT'S A FACT. New research shows alcohol affects a teenager's developing brain differently than an adult's. Memory, learning and impulse control can be seriously impaired. The risk of addiction goes up dramatically. So talk to your kids about the dangers of alcohol and set clear rules about no alcohol use.

Visit www.parentsempowered.org for more information and the proven skills to prevent underage drinking.

Parents
are the key
to preventing
underage drinking



Deseret News

DABC
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**PARENTS
EMPOWERED.org**

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LIEUTENANT GOVERNOR

Dear Parents,

As parents we all want the best for our children.

We are becoming increasingly aware of the disturbing fact that underage drinking is a serious problem, even here in Utah. Heavy binge drinking begins as early as sixth grade, and new scientific evidence proves underage drinking can cause permanent damage to a teen's developing brain. As a result, the need for parents to stay involved in their children's lives has never been greater.

In an effort to combat this growing problem, the State of Utah has launched ParentsEmpowered.org, a website designed to educate parents about the dangers of underage drinking. New to ParentsEmpowered.org this year are downloadable handouts that teach parents important skills in the following areas:

- Bonding with your children through daily, positive communication and interaction.
- Setting clear boundaries and limitations, including rules about underage drinking.
- Monitoring your children's activities by asking direct questions and ensuring that their environment is alcohol free.

ParentsEmpowered.org and "Strengthening Families" can help you discover that you have more power over the choices your children make than you may now realize.

Studies confirm that children who have a close and loving relationship with their parents are less likely to use alcohol, drugs or tobacco. Children who feel connected to their families value that relationship and do not want to jeopardize it. In fact, studies show that parental disapproval is the No. 1 reason children choose not to drink alcohol.

We encourage you to visit ParentsEmpowered.org today and get started on the road to keeping the children in our State drug and alcohol-free.

Sincerely,


Gary R. Herbert
Governor


Jeanette Herbert
First Lady

PARENTS
EMPOWERED.org

● Most parents talk to their kids about drinking two years too late. Age 8 is not too early.

● What parents may not realize is that children say parental disapproval of underage drinking is the key reason they have chosen not to drink.

Teen brain development and alcohol

NEW RESEARCH SHOWS that alcohol affects a developing teen brain differently from an adult brain. "The brain goes through dynamic changes during adolescence, and alcohol can seriously damage long- and short-term growth processes" (American Medical Association, 2003).

Alcohol use may impair memory, learning, decision-making and impulse control; and it greatly increases the risk of addiction. In addition, alcohol use can cause young people to develop social problems, have poor judgment, get into trouble, do poorly in school and experience failure in achieving lifelong goals.

To compound this problem, research shows that parents generally underestimate the extent of teen drinking and its negative consequences. Thirty-one percent of youths who said they had been drunk in the past year were said by their parents to be non-drinkers. Others may view underage drinking as inevitable, but it isn't. To be alcohol-free, a teen needs the active involvement and help of a parent. All children need help from their parents to guide them through their teenage years. Staying bonded to parents is critical to the process of teenagers emerging healthy, safe and alcohol-free.

Alcohol affects a teen brain differently from an adult brain.

- The brain's hippocampus (responsible for learning and memory) can be **10% smaller** in underage drinkers.
- It can actually cause serious damage to the still-developing adolescent brain (10-21 years).

A person who starts drinking at the legal age of 21 has only a **7 percent** chance of becoming addicted.

Children who begin drinking at age 13 have a **45 percent** chance of becoming alcohol-dependent.



● Research shows more than half of Utah parents don't know that underage drinking increases the risks of alcoholism.

Increased risk of

addiction

ALCOHOL HIJACKS THE BRAIN'S PLEASURE-REWARD SYSTEM

THE BRAIN REWARDS positive actions with feelings of pleasure so we want to repeat them. We remember pleasure "feel-good" brain chemicals, or neurotransmitters, which connect the pleasure to the thing we enjoyed. Alcohol hijacks our brain's pleasure-reward system by tricking the brain into generating pleasure-reward feelings from a harmful chemical instead of a real experience.

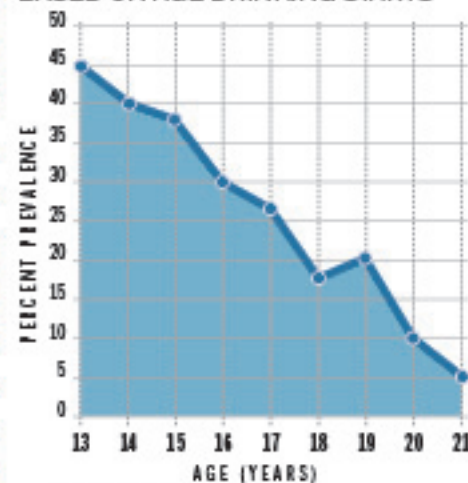
If teens continue drinking, the brain changes and adapts to the presence of alcohol and soon they need more and more alcohol to create the same amount of pleasure. If they continue to drink they

will begin to crave it and feel uncomfortable — sometimes even extreme discomfort — without it. They become addicted. Getting their next drink becomes more important than family, grades or even sports.

Because the teen brain produces an abundance of dopamine, it can go rapidly from liking, to wanting, to needing alcohol, programming it for alcoholism. Alcohol can also damage the brain's ability to sense pleasure from normal, healthy things and experiences — leaving a young person feeling "flat" about things he/she previously enjoyed.

Alcohol-dependence

BASED ON AGE DRINKING STARTS



SOURCE: Grant, R.F. and Dawson, D.A. Journal of Substance Abuse 9:210-211, 1997

● If your family has a history of alcoholism, your children need to know that they are at a greater risk for problem drinking.

Parents

are the #1 reason kids don't drink

Education alone is not enough to deter teens from drinking as they enter difficult social transitions to adulthood, because there are many pressures and opportunities to drink. Parents who are actively involved can have a powerful influence on their child's decision to remain alcohol-free.

Teen perceptions of parental disapproval are great deterrents. What parents may not realize is that children say parental disapproval of underage drinking is the key reason they have chosen not to drink.

Research indicates that children are less likely to drink when their parents are involved in their lives and when they and their parents report feeling close to each other. Family conflict and lack of bonding are associated with increased risk of drinking. Mixed messages, and unclear rules and expectations also leave children more vulnerable to underage drinking.

How parents can help their children to remain ALCOHOL-FREE

- 1 Explain the risks**
Learn and explain the risks of underage drinking. Emphasize that drinking alcohol is not a "rite of passage" but a dangerous drug for a teen brain.
- 2 Talk early and often**
In Utah, surveys indicate some youths binge drink in the sixth grade, and a few may start even earlier.
- 3 Set clear rules**
Set clear rules about no alcohol use. Be specific: "Absolutely no underage drinking in our family."
- 4 Know your children's friends**
Get to know your children's friends and their parents. Help them choose friends who support your family rules.
- 5 Monitor children's activities**
Always know where your children are, whom they are with and what they are doing. For example: "If alcohol is at a party, call me and I'll come and get you."
- 6 Make alcohol unavailable**
Ensure that alcohol is not available to your child at home or from others when your child is away.
- 7 Be involved**
Develop close bonding experiences and have daily positive interactions with your child.
- 8 Stay in contact**
Studies show children are more likely to drink between the hours of 3:00-6:00 pm, when unsupervised by parents. Give your kids a call.

START TALKING BEFORE THEY START DRINKING

Sharing values and family history regarding alcohol will create an environment of trust and understanding.

If parents drink, they should:

Be clear that they do not want their children to drink alcohol until they are 21 years old and then only in moderation.

Tell their children that some people should not drink alcohol beverages at all. These include:

- Children and adolescents.
- Individuals of any age who cannot restrict their drinking to moderate levels.
- Women who are pregnant.
- People who plan to drive or take part in activities that require attention or skill.
- People using prescription and over-the-counter medications.

If parents don't drink, they should:

Explain their reasons for not drinking, whether they are religious, health-related or due to family history.

- Encourage children to talk about concerns and questions about drinking.
- Be clear that they do not want their children to drink.
- Explain that when the children are 21, if they should decide to drink, they should do so in moderation.

New brain research

and the effects of alcohol

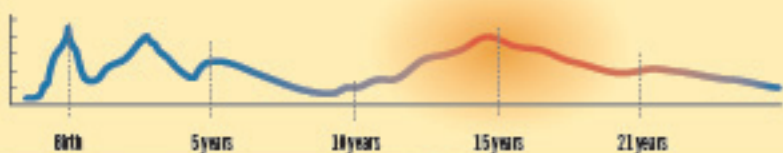
Brain plasticity

During peaks of plasticity, the adolescent brain is "wiring" two important brain areas: the **prefrontal cortex** (responsible for planning, decision-making, good judgment and impulse control) and the **hippocampus** (involved in memory and learning). During this period of development, the brain must make the key neural connections to wire itself to become a responsible, thoughtful adult. Alcohol, which acts as a depressant, slows down brain activity and hinders development.

Neural plasticity refers to the ability of circuitry in the brain to physically change and grow new dendrites as a result of new learning and experiences.

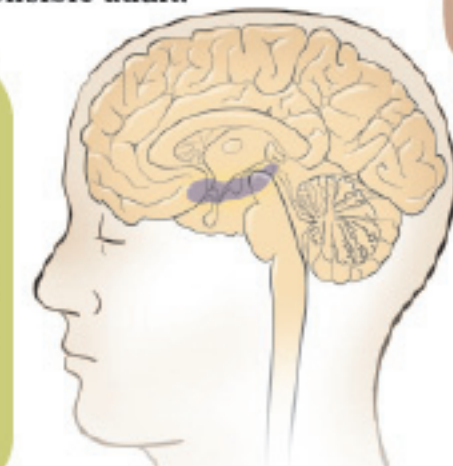
Peaks of brain plasticity

Drinking alcohol during times of peak plasticity can damage brain wiring.



Alcohol affects a teen brain differently than a mature adult brain. The brain goes through rapid development and "wiring" changes during the ages of 12 through the early 20s. Teen alcohol use can damage this brain wiring, which is essential to become a mature, thoughtful, responsible adult.

The brain's **hippocampus** (responsible for learning and memory) can be **10% smaller** in underage drinkers.

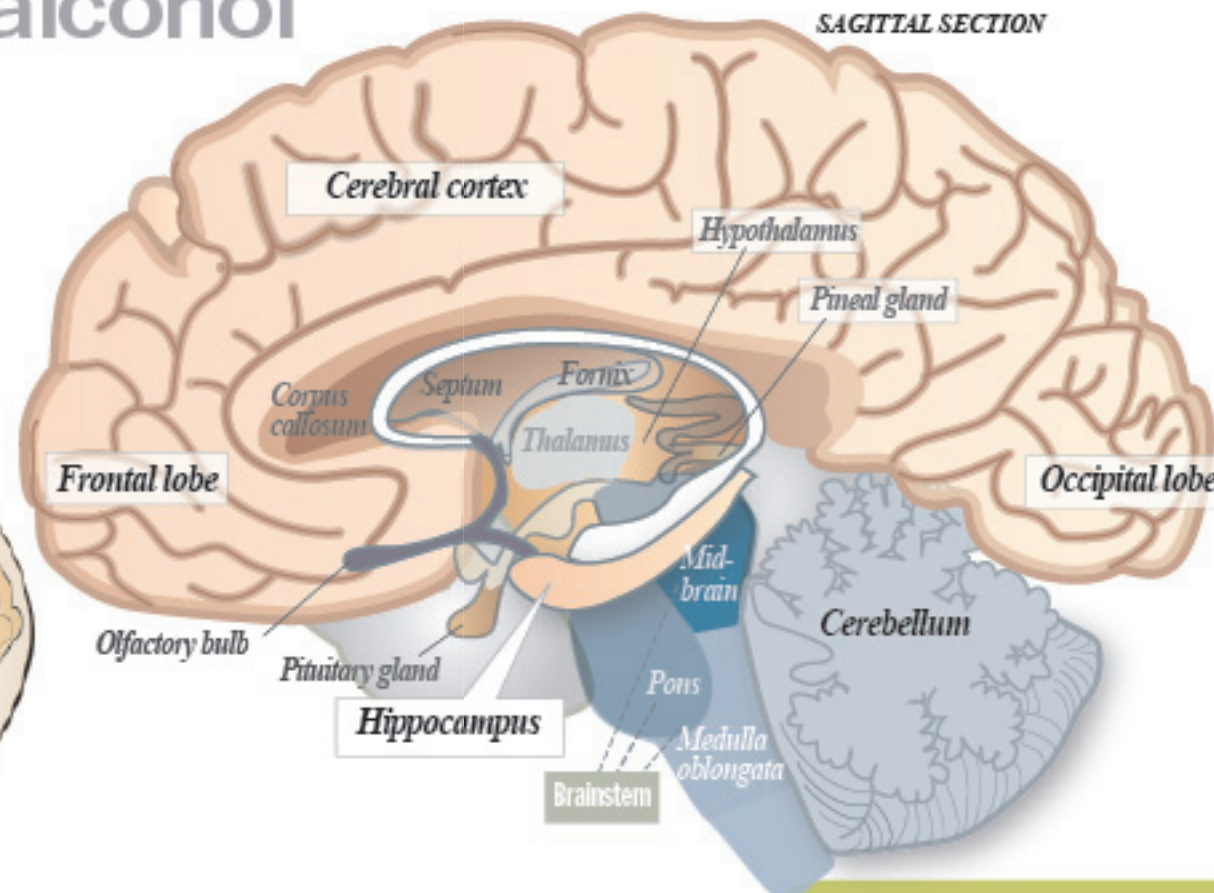


Alcohol can damage two key brain areas:

1 "The **prefrontal area** (responsible for thinking, planning, good judgment, decision-making and impulse control) undergoes the most change during adolescence. Researchers found that adolescent drinking could cause severe changes in this area ... which plays an important role in forming adult personality and behavior. Damage from alcohol at this time can be long-term and irreversible."

2 "The **hippocampus** (involved in learning and memory) suffers the worst alcohol-related brain damage in teens. Those who had been drinking more and for longer had significantly smaller hippocampi (10 percent). In addition, short-term or moderate drinking impairs learning and memory far more in youths than adults. Frequent drinkers may never be able to catch up in adulthood, since alcohol inhibits systems crucial for storing new information."

American Medical Association, 2009 Fact Sheet



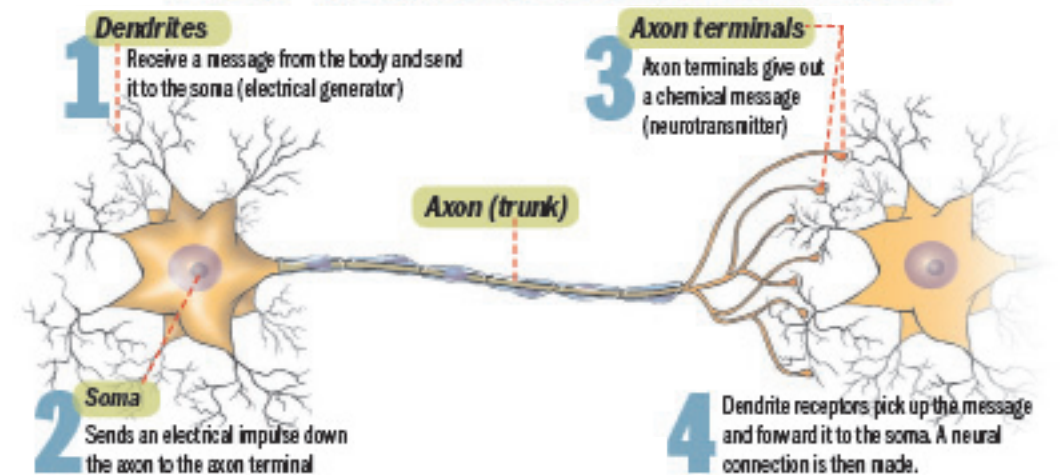
SAGITTAL SECTION

Brain white matter damage

The brain is made up of gray matter (neurons) and white matter. Because alcohol suppresses brain activity, it prevents the teen brain from properly developing its essential "white matter" — the fatty-waxy coating which insulates the part of neurons that send electrical signals. Impaired white matter can negatively affect thinking and memory skills. — Dr. Susan Tapert

(ref: <http://www.npr.org/templates/story/story.php?storyId=122765890>)

How neurons communicate



Our brain is more complex than the world's most powerful computer. It is responsible for everything we think, see, hear, feel, smell or do. It even creates and directs all of our emotions. The brain is divided into different areas that direct different parts of our body. Like a complex computer, all the different parts of the brain work at the same time — like parallel processing.

It does this through more than 100 billion brain cells called neurons. A neuron looks sort of like a tree, with "branches" called dendrites, a "trunk" called an axon, and "roots" called axon terminals. The tip of each "root" contains tiny sacks of powerful chemicals called neurotransmitters. At the top of the "trunk" is a tiny electrical generator called a soma.

The brain neurons communicate by sending electrical and chemical messages from the "roots"

of one neuron to the "branches" of another. If a thought or action is repeated often, the "roots" of one neuron send more chemical, and the receiving neuron makes more "branches" to receive it. The neural connection is strengthened until it begins to look like a bushy tree instead of a spindly tree. It becomes a dominant neural pathway.

40 percent of our neurons are "wired" at birth. They perform automatic functions such as breathing, heart and lung functions, digestion, etc. The other 60 percent are waiting to be stimulated by our learning and experiences to make connections or "wiring." When we learn new things, new "NEURAL CONNECTIONS" are made in our brain. This is referred to as "wiring" our brain. It is like loading new software into a computer so it can do more things. The more neural connections we make, the smarter and more capable we become. Alcohol suppresses brain development.

"... it has become clear that, during adolescence... the brain is highly plastic and shaped by experience.... Alcohol appears to interfere with the changes in circuitry that occur during learning."

—Dr. Aaron White, Duke University

About the brain

The **brain** is the major organ of the central nervous system and the control center for all the body's voluntary and involuntary activities. It is responsible for everything we think, feel, see, say and do.

The **brainstem** controls vital body functions, such as breathing and digestion. The **cerebellum's** main functions are the maintenance of posture and the coordination of body movements. The **cerebrum**, which consists of the right and left cerebral hemispheres, is the site of most conscious and intelligent activities.



Alcohol and judgment

The teenage brain is still developing. Alcohol can impair the parts of the brain that control the following:

Motor coordination

This includes the ability to talk, drive and process information.

Impulse control

Drinking lowers inhibitions and increases the chances that a person will do something that they will regret when they are sober.

Memory

Impaired recollection and even blackouts can occur when too much alcohol has been consumed.

Judgment and decision-making capacity

Drinking may lead young people to engage in risky behaviors including getting into a car with someone who has been drinking. These behaviors can result in illness, injury and even death.

Risks associated with underage

drinking

ALCOHOL POISONING

Most kids have not yet developed the "cut-off" switch that makes them go to sleep or pass out from too much drinking. They can consume dangerous amounts of alcohol before they realize it's too late. This can result in alcohol poisoning, which can cause difficulty breathing, unconsciousness and death. Binge drinking can and does kill – killing as many young people as all other drugs combined. If a young person ever passes out from drinking, 911 should be called for immediate medical attention.

Alcohol use among children is strongly correlated with violence, poor academic performance and other harmful behaviors. Education alone will not keep your kids from using alcohol because there are constant pressures and opportunities to drink.

Further, the areas of the brain that encourage impulsivity and risk-taking develop early in a teen, while the areas that improve self-control don't develop until the very late teens or early twenties. You must stay actively involved as a parent in bonding with your teen, setting boundaries and monitoring to help your teen remain alcohol-free.

Violence

Children who start drinking before age 15 are 12 times more likely to be injured while under the influence of alcohol and 10 times more likely to be in a fight after drinking, compared with those who wait to drink until they are 21.

School failure

Teens who use alcohol have higher rates of academic problems and poor performance than non-drinkers. Among eighth-graders, higher truancy rates are associated with greater rates of alcohol use.

Promiscuity

Alcohol use by teens is a strong predictor of unprotected sexual activity and unwanted sexual advances.

Illicit drug use

More than 67 percent of young people who start drinking before the age of 15 will try an illicit drug. Children who drink are 7.5 times more likely to use any illicit drug, more than 22 times more likely to use marijuana and 50 times more likely to use cocaine than children who never drink.

Stay in contact

Be aware that studies show kids are more at risk for alcohol between the hours of 3 p.m. and 6 p.m., while many parents are still at work.

Find ways to check on your kids when you are not around, either with phone calls, text messaging or through a neighbor dropping by.

Visit parentsempowered.org to send a text message to your kids.



Children often think that other people their age are drinking regularly, but most are not.

Peers'

influence on alcohol use

Students with high-refusal-assertiveness skills are less likely to drink underage. Decide good ways to say "no" and practice them often in role-play situations. Some ideas are:

"No thanks. Drinking is not my thing."

"No thanks. I need all the brain cells I've got."

"No thanks. I've only got one brain. Why would I want to trash it?"

"No thanks. Drinking before your brain is developed can dumb yourself down."

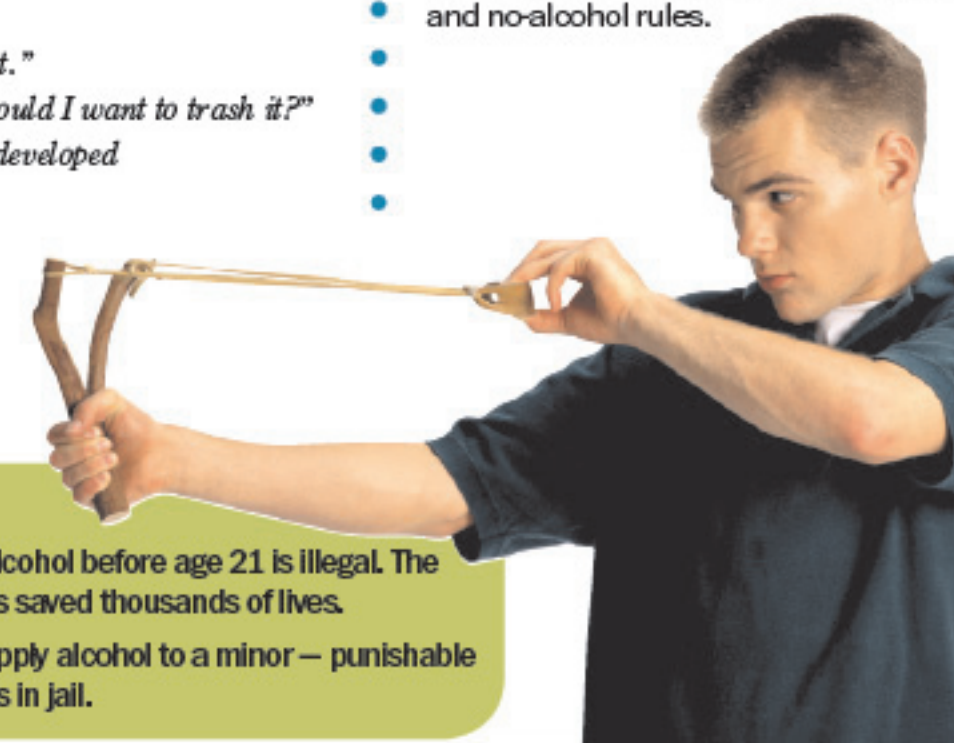
If there is alcohol at a party,
LEAVE.

Keep your social environment
alcohol-free.

The law

Possessing, purchasing or drinking alcohol before age 21 is illegal. The minimum legal drinking age of 21 has saved thousands of lives.

It is illegal for anyone to furnish or supply alcohol to a minor – punishable by up to a \$2,500 fine and 12 months in jail.



Encouraging news

Central to this media campaign to eliminate underage drinking is the encouraging news that studies show parent disapproval is the No. 1 reason children choose not to drink alcohol. Parents empowered can trump peer pressure.

The most effective parenting techniques are among the most simple, including:

- Set clear rules about no underage drinking
- Know where your children are and whom they are with
- Know your children's friends and their parents
- Ensure your children's social environments are alcohol-free
- Have daily, positive communication with your children; express love often
- Eat dinner together

Most parents don't realize they are the No. 1 influence in their children's lives.



Research shows teens who regularly eat as a family (5-7 times per week) are 33 percent less likely to use alcohol.

LEARN MORE AT: **PARENTS EMPOWERED.org**



Parents' view

When parents were asked to draw the greatest influences on their teens, they placed themselves last.

Teens' view

When teens were asked to draw the major influences in their lives, they placed their parents first, before peers and activities.



Alcohol

and the developing brain



Solve this puzzle after reading the fact sheets found at ParentsEmpowered.org

Crossword clues

ACROSS

- 1 Can harm mind and body of growing teen
- 4 Be smart, don't _____
- 5 Makes strong bones
- 7 Drinking alcohol may damage _____ ability
- 9 One of most trusted
- 10 Breaks down alcohol
- 11 More susceptible to alcohol damage
- 13 Hazardous state
- 15 Alcohol is a _____
- 16 A frontal lobe responsibility
- 17 Alcohol may damage frontal _____ forever
- 19 Refusal skill #1 = Ask _____
- 20 Most youth do _____ drink
- 21 Refusal skill #4 = Suggest _____

DOWN

- 2 Brain area
- 3 Smart media use is media _____
- 4 Alcohol is not a _____
- 5 Establish and maintain with children
- 6 Get _____ in child's life
- 8 Brain cell
- 12 Slows with alcohol
- 14 Age of legal alcohol use
- 18 Five or more drinks at a time

WORDS USED IN THIS PUZZLE

3-LETTER WORDS:

Mom
Not

5-LETTER WORDS:

binge
heart
liver
lobes
start
youth

6-LETTER WORDS:

limbic
neuron

7-LETTER WORDS:

alcohol
calcium

8-LETTER WORDS:

involved
judgement
literacy
question
thinking

9-LETTER WORDS:

stimulant
twenty-one

10-LETTER WORD:

depressant

11-LETTER WORD:

intoxicated

12-LETTER WORD:

alternatives

13-LETTER WORD:

communication

ANSWERS

ACROSS 1: alcohol; 4: start; 5: calcium; 7: thinking; 9: Mom; 10: liver; 11: intoxicated; 12: alternatives; 13: communication; 14: age of legal alcohol use; 15: alcohol is a _____; 16: a frontal lobe responsibility; 17: alcohol may damage frontal _____ forever; 18: five or more drinks at a time; 19: refusal skill #1 = Ask _____; 20: most youth do _____ drink; 21: refusal skill #4 = Suggest _____

CREDITS

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Your influence stays with them. Parental disapproval is the number one reason kids choose not to drink. So set clear rules and expectations about no underage drinking. Visit parentsempowered.org for more information on the proven skills to prevent it.

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Sponsored by The Utah Department of Alcohol Beverage Control and Utah Prevention